AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A machine implemented method comprising:

accessing rows in a database table, wherein:

each row in the database table corresponds to a dimension-value combination for a set of one or more dimensions;

the database table is composed of a plurality of segments, wherein each segment of the plurality of segments (a) corresponds to a different contiguous range of dimension-value combinations and (b) includes a different set of one or more rows, wherein at least one segment of the plurality of segments includes multiple rows;

the boundaries of each segment, of the plurality of segments, are established based on gaps in dimension-value combinations associated with rows stored in the database table;

each gap covers at least one valid dimension-value combination that is not associated with any row in the database table;

the segment into which a row of the database table is stored is the segment that corresponds to the contiguous range that includes the dimension-value combination to which the row corresponds;

within each segment of the plurality of segments, rows of the database table are stored at locations based on the dimension-value combination to which the rows correspond; and

wherein accessing rows in the database table includes, in response to receiving a request that indicates a particular dimension-value combination:

using the particular dimension-value combination for determining a segment of the plurality of segments that stores a particular row that corresponds to the particular dimension-value combination; and

accessing the particular row within the segment.

2. (currently amended) The method of claim 1, wherein~~:~~

the database table (a) does not include columns for storing values for the one or more dimensions and (b) does not include columns for storing values that are derived from dimension values.

3. (canceled)

4. (previously presented) The method of claim 38, wherein:

the method further comprising creating the index; and

locating the entry is based in part on information contained in the entry that corresponds to the segment that contains the particular row.

5. (previously presented) The method of claim 1, wherein sizes of the plurality of segments and locations contained within the plurality of segments are allocated according to a density of discontinuities in ranges of dimension value combinations.

6. (previously presented) The method of claim 38, wherein:

the index is an indexed organized table; and locating the entry is based in part on information contained in the entry that corresponds to the segment that contains the particular row.

7. (original) The method of claim 6, wherein the index organized table includes nonkey information used for determining locations of gaps in ranges of dimension value combinations that are between the segments.

8. (original) The method of claim 6, wherein at least one of the plurality of segments includes more than one contiguous range of dimension value combinations.

9. (original) The method of claims 6, wherein at least one of the plurality of segments comprises at least two contiguous range of dimension value combinations that are joined together by at least one dummy entry in the table, therein forming one contiguous range of dimension value combinations.

10. (original) The method of claim 6, wherein the at least two of the plurality of segments are each divided into blocks having a block size, and the block size of a first of the at least two of the plurality of segments is different from the block size of a second of the at least two of the plurality of segments.

11. (previously presented) The method of claim 6, wherein the indexed organized table includes an identification of a reference location for each segment of the plurality of segments from which offsets from the reference location are calculated to reach other locations in each of the segments.

12. (previously presented) The method of claim 1, wherein each of the plurality of segments is divided into one or more blocks of equal size.

13. (previously presented) The method of claim 1, wherein accessing the rows in the database table is also performed by at least accessing a table having an identification of a dimension value of a reference location included in the block from which offsets are calculated to other locations.

14. (original) The method of claim 13, wherein the reference location is an index value of a first of location within a segment that stores rows for a contiguous range of dimension value combinations.

15. (original) The method of claim 13, wherein the table having the identification is a B-tree index.

16. (original) The method of claim 13, wherein the table having the identification is a bit map index.

17. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 1.

18. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 2.

19. (canceled)

20. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 4.

21. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 5.

22. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 6.

23. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 7.

24. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 8.

25. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 9.

26. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 10.

27. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 11.

28. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 12.

29. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 13.

30. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 14.

31. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 15.

32. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 16.

33. (canceled)

34. (currently amended) A computer-readable storage medium that is readable by a database system, having stored therein at least:

a database table containing a plurality of data items on the computer readable media that correspond to locations associated with at least one dimension value;

wherein each data item of the plurality of data items is stored in the table in an order dictated by a dimension value combination to which said each data item corresponds, wherein the dimension value combination, to which said each data item corresponds, corresponds to one or more dimension columns defined for the database table; and wherein the database table (a) does not store values for~~, or that are derived from dimension values associated with,~~ the one or more dimension columns and (b) does not store values that are derived from dimension values associated with the one or more dimension columns.

35. (previously presented) The computer-readable storage medium of claim 34, wherein all of the locations of the database table that are associated with non-null dimension values are organized into one or more segments, each segment including a contiguous region of data without discontinuities in the dimension values.

36. (previously presented) The computer-readable storage medium of claim 35, wherein the table has associated with it at least one dimension value combination:

that is associated with a null value; and

that is not included in any of the one or more segments.

37. (previously presented) The computer-readable storage medium of claim 36, wherein the computer-readable storage medium also has stored therein at least:

another table storing identifiers for determining the locations stored within each segment of the one or more segments.

38. (currently amended) A machine-implemented method comprising:

accessing rows in a database table, wherein:

each row in the database table corresponds to a dimension-value combination for a set of one or more of dimensions;

the database table is composed of a plurality of segments, wherein each segment of the plurality of segments corresponds to a different contiguous range of dimension-value combinations and (b) includes a different set of one or more rows, wherein at least one segment of the plurality of segments includes multiple rows;

the boundaries of each segment, of the plurality of segments, are established based on gaps in dimension-value combinations associated with rows stored in the database table;

each gap covers at least one valid dimension-value combination that is not associated with any row in the database table;

the segment into which a row of the database table is stored is the segment that corresponds to the contiguous range that includes the dimension-value combination to which the row corresponds;

wherein accessing rows in the database table includes, in response to receiving a request that indicates a particular dimension-value combination:

using the particular dimension-value combination for locating an entry in an index that includes a plurality of entries, wherein each segment of the plurality of segments is represented by a different single entry in the index; and

accessing the particular row based on information contained in the index entry.

39. (currently amended) A machine-implemented method comprising:

determining a plurality of ranges based on dimension-value combinations to which rows in a table correspond;

wherein each range of the plurality of ranges is a different range of dimension-value combinations for a set of one or more dimensions;

wherein each row in the database table corresponds to a dimension-value combination;

wherein the plurality of ranges is determined such that the database table includes rows that correspond to every dimension-value combination that belongs to each range of the plurality of ranges;

wherein the boundaries of each range, of the plurality of ranges, are determined based on gaps in dimension-value combinations associated with rows stored in the database table;

each gap covers at least one valid dimension-value combination that is not associated with any row in the database table;

for each range of the plurality of ranges, creating a segment that stores only rows, from the table, that have dimension-value combinations that fall within the range that corresponds to said each segment.

40. (previously presented) The method of Claim 39, further comprising storing rows, within each segment, in an order that is based on the dimension-value combinations of the rows.

41. (currently amended) The method of Claim 39, wherein the rows (a) do not include columns for storing dimension-value combinations and (b) do not include any column for storing one or more values that are derived from dimension-value combinations.

42. (previously presented) The method of Claim 39, further comprising creating an index that includes a single entry for each segment.

43. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 38.

44. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 39.

45. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 40.

46. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 41.

47. (previously presented) A computer-readable storage medium storing one or more sequences of instructions, which when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 42.